

preferably after said fractionation (4), whereby secondary fines are produced in the pulp.

4. (Amended) Method according to claim 1, characterized in that said pulp is subjected to a treatment step (2) after said first refining step (1), but before said fractionation (4), in which treatment step (2) the pulp is subjected to one or more of the treatments dilution, temperature enhancement, mechanical agitation and retention time.

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5. (Amended) Method according to claim 1, characterized in that said fractionation (4) is performed by screening, preferably in at least one curved screen, or by centrifugation, preferably in at least one cyclone.

6. (Amended) Method according to claim 1, characterized in that said fractionation (4) is performed in at least two steps.

7. (Amended) Method according to claim 1, characterized in that 3-15%, preferably 5-10% of said pulp, measured as dry weight, is separated from said pulp in said fractionation (4).

8. (Amended) Method according to claim 1, characterized in that said separated, led away primary fines (5) are used for heat recovery, for cattle food or in another line for pulp, paper or paperboard production.

9. (Amended) Method according to claim 1, characterized in that the pulp is subjected to bleaching, preferably peroxide bleaching, after the refining (1, 13) and fractionation steps (4).

A, 10. (Amended) Method according to claim 1, characterized in that said pulp is CTMP, CMP, TMP or HTCTMP.

11. (Amended) Method according to claim 1, characterized in that said produced mechanical pulp is used in the production of paperboard, preferably paperboard intended for food or liquid related applications.

12. (Amended) Mechanical pulp from a cellulose containing material, characterized in that it is produced according to claim 1.

13. (Amended) Paperboard, at least partly produced from a mechanical pulp from a cellulose containing material, characterized in that said pulp is produced according to claim 1.